REMARKS

Applicants thank the Examiner for the thorough examination of the application. Claims 1-28 are pending. Claims 1, 10, 16, 20, 25, 26, and 28 are amended. Claims 1, 16, 20, 25, and 26 are independent. Reconsideration of the present application, as amended, is respectfully requested.

Claim for Priority

The Examiner is requested to acknowledge Applicants' claim for foreign priority and receipt of the certified copy of the priority document.

Drawings

Applicants have not received a Notice of Draftsperson's Patent Drawing Review, Form PTO-948, indicating whether the formal drawings have been approved by the Official Draftsperson. It is respectfully submitted that the drawings comply with the requirements of the USPTO. Clarification with the next official communication is respectfully requested.

Rejection under 35 U.S.C. §103(a)

Claims 1-28 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,644,338 to Aoki et al. in view

of U.S. Patent No. 4,843,441 to Willard. Applicants respectfully traverse this rejection.

While not conceding the appropriateness of the rejection, but merely to advance prosecution of the instant application, independent claim 1 is amended to recite an electro-luminescence display device having a combination of elements, including first and second driving voltages which are equal and first and second driving currents which are different, whereby the first and second pixel cells are independently driven. Claim 10, which depends from claim 1, is amended to recite the embodiment wherein the first, second and third driving voltages are equal, and the first, second and third driving currents are different, whereby the first, second and third pixel cells are independently driven.

Independent claim 16 is directed to an electro-luminescence display device having a combination of elements, including a first driving circuit including a first transistor having a first channel width and a first channel length, the first channel width to the first channel length forming a first ratio, and a second driving circuit including a second transistor having a second channel width and a second channel length, the second channel width to the second channel length forming a second ratio which is different from the first ratio.

Independent claim 20 is amended to recite a method of forming an electro-luminescence display having a combination of steps, including forming a driving transistor for each pixel cell, the driving transistor applying different currents to the pixel cells having different colors such that the pixel cells having different colors are independently driven. Independent claim 25 is amended to incorporate the subject matter of claims 2 and 3.

Independent claim 26 is directed to a method of forming a electro-luminescence display device having a combination of steps, including forming a first driving circuit including a first transistor having a first channel width and a first channel length, the first channel width to the first channel length forming a first ratio, and forming a second driving circuit including a second transistor having a second channel width and a second channel length, the second channel width to the second channel length forming a second ratio, the first ratio being different from the second ratio.

It is respectfully submitted that the combinations of elements and steps set forth in amended independent claims 1, 12, and 20, as well as independent claims 25 and 26, are not disclosed or rendered obvious by the prior art of record, including Aoki et al. and Willard.

Aoki et al. merely discloses a driver circuit for a liquid crystal that includes source lines 8, gate lines 9, a display plane 28, and a gate line selective and driver circuit 32. See FIG. 10.

On page 2 of the Office Action, the Examiner states that applying different voltages for different pixel colors would inherently produce different currents.

In fact, although different voltages for different pixels are applied, in Aoki et al., the driving currents for the different color pixels are not necessarily different. In the instant application, in order to *independently drive* each of the different color pixels, different driving currents are applied to each of different color pixels.

In contrast to Applicants' claimed invention, in the cited references, *each of different color pixels is not independently driven*. Aoki et al. does not teach or suggest applying different driving currents to the different color pixels to allow each of the different color pixels to be independently driven, as recited in amended independent claims 1 and 20. Willard fails to cure the deficiencies of Aoki et al., since Willard does not teach or suggest the above-cited limitations of claims 1 and 20.

On page 3 of the Office Action, the Examiner relies on Willard for a teaching of devices where the first and second driving circuits comprise channel lengths and channel widths where the ratio formed by the length to the width of each of the two is different,

because this feature is not taught by the primary reference, Aoki et al. Applicants respectfully traverse the Examiner's interpretation of the Willard reference.

Willard merely teaches a field effect transistor in which channel resistance is affected by the resistivity of the semiconductor material forming the channel and by the dimensions of the channel, including the length, depth, and width. Since the frequency at which a field effect transistor can operate depends partially on the length of the channel, to maximize the operating frequency, the channel length should be as short as possible. Furthermore, the channel length should be larger than the channel depth in order to provide for adequate gate control over the channel flow. Willard does not teach or suggest the ratio of the channel width to the channel length of different transistors being different from one another, as required by claims 16, 25, and 26.

In view of the foregoing, it is respectfully submitted that Aoki et al. and Willard fail to teach or suggest the presently claimed subject matter of independent claims 1, 12, 16, 20, 25, and 26. Accordingly, reconsideration and withdrawal of the rejection based on these references are respectfully requested. It is believed that the independent claims are allowable, and since the remaining claims depend from allowable independent claims, they are also allowable for at least the above reasons, as well as for the

additional limitations provided thereby. Thus, all claims are allowable.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.

However, if there are any outstanding issues, the Examiner is invited to telephone Sam Bhattacharya (Reg. No. 48,107) at (703) 205-8000 in an effort to expedite prosecution.

Pursuant to 37 C.F.R. §§1.17 and 1.136(a), Applicants hereby request a one-month extension of time in which to file this reply. A check for the required fee of $110 is attached.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or to credit any overpayment to Deposit Account No. 02-2448 for any additional fees

required under 37 C.F.R. §§ 1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,

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MARKED-UP COPY OF AMENDMENTS

In the Specification:

Please **amend the paragraph beginning on page 3, line 10**, as follows:

As shown in Fig. 3, however, each EL diode EL of the R, G and B pixel cells has a different brightness characteristic according to the applied current. In other words, when a current with the same magnitude flows in each pixel cell, the EL diode R-EL of the R pixel cell, the EL diode G-EL of the G pixel cell and the EL diode B-EL of the B pixel cell [has] have a brightness magnitude different [form] from one another. In the ELD, the brightness of red, blue and green lights required to meet the white balance is different from one another. This is because the EL materials making up the EL diode EL in each pixel cell are different.

Please **amend the paragraph beginning on page 7, line 26**, and **ending on page 8, line 2**, as follows:

As described above, according to the present invention, a current amount required for each of the R, G and B pixel cells is controlled in accordance with a dimension of the driving device, so that an accurate color realization can be obtained even though the same data driving waveform is applied to each pixel cell.

Accordingly, the R, G and B pixel cells can be independently driven even when a complex driving device is not included in the data driving circuit. As a result, the ELD according to the present invention has an advantage in that [a] the design of the data driving circuit can be simplified to thus lower its manufacturing cost.

In the Claims:

Please **amend claims 1, 10, 16, 20, 25, 26, and 28** as follows:

1. (Amended) An electro-luminescence display device, comprising:

a first pixel cell displaying a first color;

a second pixel cell displaying a second color;

a first driving circuit receiving a first driving voltage and applying a first driving current to the first pixel cell based on the first driving voltage; and

a second driving circuit receiving a second driving voltage and applying a second driving current to the second pixel cell based on the second driving voltage,

wherein:

the first and second driving voltages are equal, and the first and second driving currents are different, whereby the first and second pixel cells are independently driven.

10. (Amended) The device of claim **1**, further comprising:

a third pixel cell displaying a third color; and

a third driving circuit receiving a third driving voltage and applying a third driving current to the third pixel cell based on the third driving voltage,

wherein the first, second and third driving voltages are equal, and the first, second and third driving currents are different, whereby the first, second and third pixel cells are independently driven.

16. (Amended) An electro-luminescence display device, comprising:

a first driving circuit including a first transistor having a first channel width and a first channel length, the first channel width to the first channel length forming a first ratio; and

a second driving circuit including a second transistor having a second channel width and a second channel length, the second channel width to the second channel length forming a second ratio, the first ratio being different [than] from the second ratio.

20. (Amended) A method of forming an electro-luminescence display, comprising:

forming a plurality of gate lines and a plurality of data lines to form a lattice configuration;

forming a plurality of pixel cells between the gate lines and the data lines;

forming a driving transistor for each pixel cell, the driving transistor applying different currents to the pixel cells having different colors such that the pixel cells having different colors are independently driven; and

forming a data driving circuit commonly connected to the data lines to provide an identical driving voltage to each pixel cell.

25. (Amended) A method of forming a electro-luminescence display device, comprising:

forming a first pixel cell displaying a first color;

forming a second pixel cell displaying a second color;

forming a first driving circuit receiving a first driving voltage; and

forming a second driving circuit receiving a second driving voltage,

wherein:

the first driving circuit and the second driving circuit have a different structure;

the first driving circuit comprises a first transistor having a first channel width and a first channel length, the first channel width to the first channel length forming a first ratio; and

the second driving circuit comprises a second transistor having a second channel width and a second channel length, the second channel width to the second channel length forming a second ratio; and

the first and second ratios are different.

26. (Amended) A method of forming a electro-luminescence display device, comprising:

forming a first driving circuit including a first transistor having a first channel width and a first channel length, the first channel width to the first channel length forming a first ratio; and

forming a second driving circuit including a second transistor having a second channel width and a second channel length, the second channel width to the second channel length forming a second ratio, the first ratio being different **[**than**]** from the second ratio.

28. (Amended) A method of driving an electro-luminescence display device as recited in claim **16**, the method comprising:

driving a first driving circuit including a first transistor having a first channel width and a first channel length, based on a

first ratio formed by the first channel width to the first channel length; and

driving a second driving circuit including a second transistor having a second channel width and a second channel length, based on a second ratio formed by the second channel width to the second channel length, the first ratio being different [than] from the second ratio.